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EXAMINER

ADHAMI, MOHAMMAD SAJJID

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PAPER NUMBER

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NOTIFICATION DATE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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DETAILED ACTION

- Applicant's amendment filed 5/31/2009 is acknowledged.
- Claims 1,8,11, and 18 have been amended.
- Claims 2-4,9-10,12-14, and 19-20 are cancelled.
- Claims 21 and 22 have been added.
- Claims 1,5-8,11,15-18, 21, and 22 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11 and 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 11, the limitation *in response to an incoming an end host address not contradicting information...and the end host address is not found...the provider network, storing a new address...file.*

Claims 15-17 are rejected because they depend from a rejected claim.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 8 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Benedetto (US App. 2005/0259597).

Re claims 8 and 18:

Benedetto discloses *a method and a communication between two or more customer local area network (LAN) segments through a provider network (Fig.2 plurality of LANS 202-214 and meshed computer network 200).*

Benedetto further discloses *each customer LAN segment including a customer edge bridge (Fig.2 switch 218-227).*

Benedetto further discloses *the provider network having one or more provider edge bridges coupled to customer edge bridges (Fig.2 meshed computer network 200 switch 218 and Fig.2 and 7).*

Benedetto further discloses *each edge bridge of a LAN segment having a multi-homed connection to the provider network (Fig.2 switch 227 and LAN segment 214).*

Benedetto discloses *determining whether a topology change in the customer LAN segment affects paths of data units through the provider network (Para.[0019] Upon detection of a change in the active topology, a bridge begins transmitting Topology Change Notification Protocol Data Unit (TC-PDU) messages).*

Benedetto further discloses *when a topology change does not affect paths of data units through the provider network, transmitting unflagged topology change notifications (TCNs)* (Para.[0112] When a tagged BPDU is received, the switch checks the BPDU's Topology Change (TC) flag – where if the flag is not set, the topology change does not affect paths).

Benedetto further discloses *when a topology change affects paths of data units through the provider network, transmitting flagged topology change notifications (TCNs) which relate to topology changes affecting paths of data units through the provider network* (Para.[0019] where TCN-PDU is set with a flag and blocking and Para.[0092] blocking state).

Benedetto further discloses *each of the provider edge bridges coupled to a customer LAN segment* (Fig.2 switches 218-227 and plurality of LANS 202-214).

Benedetto further discloses *receiving topology change notifications (TCNs) from the customer network* (Para.[0019]).

Benedetto further discloses *in response to receiving a flagged TCN, flushing an address memory file associating end host addresses with ports of the provider edge bridge* (Para.[0019] upon the expiration of the predefined default time of 15 seconds, the memory database containing topology change message is quickly discarded/flushed).

Benedetto further discloses *in response to receiving an unflagged TCN, passing the TCN without flushing an address memory file* (Para.[0108] if the root

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of spanning tree instance in the region is notified or otherwise detects a topology change, it preferably generates and sends a conventional, untagged TCN, which is passed without flushing).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,5-7,11, 15-17, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benedetto in view of Hughes (US 7,277,399).

Re claims 1 and 11:

Benedetto discloses *a provider edge bridge* (Fig.2 and Para.[0028,0056,0092] bridge/switches exchange bridge protocol data units (BPDU)).

Benedetto further discloses *communication between two or more customer local area network (LAN) segments through a provider network* (Fig.2 plurality of LANs 202-214 and meshed computer network 200).

Benedetto further discloses *the provider network having one or more provide edge bridges coupled to the customer edge bridges* (Fig.2 switch 218 and Fig. 7).

Benedetto further discloses *in the provider edge bridges coupled to a customer LAN segment, receiving topology change notifications (TCNs) from the customer network (Fig.2 switch 227, LAN segment 214 and Para.[0092] switch 227 detects a change in active topology and generated an BPDU having a TCN).*

Benedetto further discloses *in response to receiving a TCN, monitoring end host addresses in data units received from the customer network for a predetermined time period (Para.[0019,0092,0113] in response to receiving a TCN, the switch monitors for BPDU TCN on each address port and the TCN-PDU is transmitted with an aging time set to a predetermined time of fifteen seconds).*

Benedetto further discloses *flushing an address memory file associating end host addresses with ports of the provide edge bridge in resposne to detecting an end host address indicating that a topology change has occurred in one or more of the custom LAN segments affecting paths of data units through the provider network (Para.[0019] upon expiration of the predefined default time of 15 seconds, the memory database containing topology change message is quickly discarded/flushed).*

Benedetto suggest *detecting a predetermined number of end host addresses of data units received in the predetermined time period is not found in the address memory file (Para.[0019 filtering database is flushing an address memory file and Para.[0019] to prevent bridges from distributing messages*

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based upon incorrect address information, bridges quickly age-out and discard the "old" information in their filtering database).

Benedetto does not explicitly disclose *in response to determining a topology change in one or more of the customer LAN segments do not affect paths of data units through the provider network, storing a new address in the address memory file without flushing the address memory file.*

Hughes discloses *in response to determining a topology change in one or more of the customer LAN segments do not affect paths of data units through the provider network, storing a new address in the address memory file without flushing the address memory file* (Col.6 lines 51-67 When network topology is update, the router receives topology updates including new destination addresses. The router can select individual entries in the hardware-based route cache that require updating and updates the individual entry without flushing the hardware-based route cache).

Benedetto and Hughes are analogous because they both pertain to data communication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Benedetto to include storing a new address in the address memory file without flushing the address memory file as taught by Hughes in order to more efficiently update a route cache.

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Re claims 5 and 15:

Benedetto suggests *storing a list of end host addresses that are received during the predetermined time period and are not found in the address memory file* (Para.[0019] filtering database).

Re claims 6 and 16:

Benedetto discloses *the end host address are media access control (MAC) addresses* (Para.[0031,0053,0059]).

Re claims 7 and 17:

Benedetto discloses *the data units are frames* (Para.[0007,0012,0018,0024,0037]).

Re claims 21 and 22:

Benedetto suggest *detecting at least one of the end host address of a received data unit in the predetermined time is in conflict with information the memory address file, a predetermined number of end host addresses of data units received in the predetermined time period is not found in the address memory file, and the end host address of a data unit received in the predetermined time period is not found in the address memory file and if the end host address is found in address memory file of another bridge in the provider network* (Para.[0019] filtering database is flushing an address memory file and Para.[0019] to prevent bridges from distributing messages based upon incorrect address information, bridges quickly age-out and discard the "old" information in their filtering database).

Response to Arguments

5. Applicant's arguments with respect to claims 1 and 11 have been considered but are moot in view of the new ground(s) of rejection.
6. Applicant's arguments filed 5/31/2009 have been fully considered but they are not persuasive.

In the remarks, Applicant contends Benedetto does not disclose not setting the TCA flag.

The Examiner respectfully disagrees. Benedetto does not disclose not setting the TCA flag (Benedetto further discloses *when a topology change does not affect paths of data units through the provider network, transmitting unflagged topology change notifications (TCNs)* (Para.[0112] When a tagged BPDU is received, the switch checks the BPDU's Topology Change (TC) flag – where if the flag is not set, the topology change does not affect paths).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gai (US 6,388,995) shows updating a filtering database without flushing.
8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD S. ADHAMI whose telephone number is (571)272-8615. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad S Adhami/
Examiner, Art Unit 2416

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